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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,418	10/15/1999	KRISHNA A. BHARAT	21708-04479U	8878

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EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/418,418

Applicant(s)

BHARAT ET AL.

Examiner

Baoquoc N To

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Claim 1-12 and 14-21 are pending in this application.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 11, 20 and 21 have been considered but are moot in view of the new ground(s) of rejection.

The applicant also argues, "the hub score in Chakrabarti is determined solely based on the authority score of the document pointed to by the hub, but not in accordance with the search query."

The examiner respectfully disagrees with the above argument because in Chakrabarti, topic is sent to a term-based search engine which is the current search query according to the applicant invention (page 2, lines 36-37). The hub page is the one that contains a larger number of links to pages containing information about the topic. By calculating the authority scores would be able to determine the hub page that has interest topic.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al. (Automatic resource compilation by analyzing hyperlink structure and associated Text April 14, 1998).

Regarding claims 1 and 20-21, Chakrabarti teaches:

determining which of the hypertext documents are expert documents (page. 3, lines 1-2);

determining a level score for each of the expert document [page 3, line 28];

determining a fullness factor for each key phase on each of the expert documents (page 4, line 7; and

determining an expert score (a hub score,  $h(p)$ ) [page 3, line 10] for each expert document in accordance with the level score of the expert document [page 3, line 28] and the fullness factors for the key phrases of the expert document [page 4, line 7];

ranking target document pointed to by the ranked expert documents [authority page, page. 2, line 45 and ranking page. 3, lines 10-11].

return a results list based on the ranked expert documents [page. 3, lines 11-13].

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Chakrabarti does not explicitly teach ranking the expert document in accordance with the current search query by [hub score, page. 3, line 10]. However, Chakrabarti teaches, "the topic is sent to a term-based search engine AltaVista in our case- and the root set of 200 documents containing the topic term(s) is collected. The particular root set returned by the search engine (among all the Web resources containing the topic as a text string) is determined by its own scoring function" (page 2, lines 35-38). This teaches the root page that result in search query and rank the root page by the scoring. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include ranking the root page as the result of the search result in order to determined which of the topic is important.

4. Claims 2-10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] in view of Yu (U.S. Patent No. 6,167,552).

Regarding on claim 2, Chakrabarti does not teach hypertext documents are pages in the World Wide Web. However Yu discloses, "the set of all documents available using the World Wide Web is an example of a hypertext database" [col. 3, lines 21-22]. Hypertext documents are pages in Word Wide Web. Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti because hypertext document are site on the World Wide Web for the user to search for information.

Regarding on claim 3, Chakrabarti teaches the subject matter except for the hypertext documents are documents in a hypertext database.

However, Yu discloses the hypertext documents are documents in a hypertext database (col. 3, lines 17-18).

Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti because hypertext document are site on the World Wide Web for the user to search for information.

Regarding on claim 4, Chakrabarti teaches the subject matter except for the hypertext documents are document in hypertext database.

However, Yu discloses in the prior art that hypertext documents are documents in a hypertext database (col. 3, lines 17-18).

Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti because hypertext document are documents in the hypertext database to allow the documents to be search for the information.

Regarding on claim 19, Chakrabarti teaches that two hypertext documents are affiliated if at least on of the following is true: 1) they share the same rightmost non-generic suffix they have an IP address in common.

Yu teaches that two hypertext documents are affiliated if at least on of the following is true: 1) they share the same rightmost non-generic suffix (col. 7, lines 55-56 and 2) they have an IP address in common (col. 7, lines 50-56).

Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti because the two hypertext documents share the same addresses are affiliated to one of the author and they are strongly related to each other.

Regarding on claim 5, Chakrabarti teaches expert reverse index (examiner equates index) is constructed in memory for keywords appearing in the expert documents, the expert reverse index identifying the location of the keywords in the expert documents.

Yu discloses the prior art that an expert reverse index (examiner equates index) is constructed in memory for keywords appearing in the expert documents, the expert reverse index identifying the location of the keywords in the expert documents (col. 3, lines 31-34).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Yu and Chakrabarti because utilizing the inverted index would allow the system to locate the keyword in the document to determine if it is a expert document.



Regarding on claim 6, Chakrabarti teaches the subject matter except for a keyword of an expert document is included in the expert reverse index if the keyword is part of a key phrase that qualifies at least one URL in the expert document.

Yu disclosed in the prior art wherein a keyword of an expert document is included in the expert reverse index if the keyword is part of a key phrase that qualifies at least one URL in the expert document (col. 3, lines 23-24).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Yu and Chakrabarti because having the keyword of an expert document is include in the reverse index would allow the locating the keyword in the document and determine the document is the expert document.

Regarding on claim 8, Chakrabarti teaches the subject matter except for a key phrase in an HTML title qualify all URLs in the entire document.

Yu teaches a key phrase in an HTML title qualify all URLs in the entire document (col. 12, lines 9-12).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Chakrabarti and Yu because having the key phrase in an HTML title qualify all URLS in the entire document would allow the document to be heavily weight as an important document.

Regarding on claim 7, Chakrabarti teaches the subject matter except for a key phrase qualifies a URL if the URL within the scope of the key phrase in the expert document.

Yu teaches a key phrase qualifies a URL if the URL within the scope of the key phrase in the expert document [col. 8, lines 9-19].

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine Chakrabarti and Yu because the key phrase in the must be qualified in order to be an expert document.

Regarding on claim 9, Chakrabarti teaches the subject matter except for a key phrase in an HTML heading qualifies all URLs in that portion of the document before a next HTML heading in the document of greater or equal importance

However, Yu teaches a key phrase in an HTML heading qualifies all URLs in that portion of the document before a next HTML heading in the document of greater or equal importance (col. 10, lines 29-32).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include the key phrase in an HTML heading qualifies all URLs in order to compare the link to determine the importance.

Regarding on claim 10, Chakrabarti teaches the subject matter except for a key phrase in an HTML anchor qualifies the URLs in the anchor.

However, Yu teaches a key phrase in an HTML anchor qualifies the URLs in the anchor (page. 12, lines 6-12).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine Chakrabarti and Yu because having a key phrase in an HTML anchor qualifies the URLs in the anchor would allow the page to read and weight as the important one.

5. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] in view of Page (US. Patent No. 6,285,999).

Regarding claim 14, Chakrabarti does not teach the ranking target documents pointed to by the expert documents includes:

determining a plurality of edge scores for each target document, where an edge score is determined for edges between the expert document and the target document; determining a target score in accordance with the edge scores of the target document; ranking the target document in accordance with the target scores. However, Page teaches, "A has two edges .2, B has one edge .2 and C has forward edge score .4" [fig. 2]. In addition, Page also teaches, "A target score is .4, B target score .2 and C target score is .4" [fig. 2]. Furthermore, Page teaches, "A is the highest rank, and B is the second and C is last" [fig. 2]. Therefore, it would have been obvious to one ordinary skill in the art to include the teaching of page into Chakrabarti because by ranking the target document the system to be able to link from the root document to the relevant document to allow the user get to the relevant site.

Regarding on claim 15, Chakrabarti teaches the subject matter except for determining an edge score only for those link to the target document from a predetermined number of top-ranked expert documents

Page teaches determining an edge score only for those links to the target document from a predetermined number of top-ranked expert documents (col. 4, lines 5-38).

Therefore, it would have been obvious to one ordinary skill in the art to include the teaching of page into because determining the edge score would allow the from the root document to the relevant document to allow the user get to the relevant site.

Regarding on claim 16, Page teaches selecting target documents to be ranked that are linked to by at least two mutually non-affiliated selected expert documents, where the selected target also is not affiliated with the expert documents (A and B, fig. 2).

Regarding to claim 17, Chakrabarti teaches an edge score between an expert document and a target document  $ES(E,T)$  is determined as follows, where ExpertScore reflects the ranking of the expert documents:

a) find # occurrences of each keyword in all keyphrases of expert document E (page 3, lines 21-23).

b) if the # occurrences for any keyword in E is 0:  $ES(E,T)=0$  [page 3, lines 30-32]  
else  $ES(E,T)=ExpertScore(E)*\text{sum of \#occurrences for all keyword}$  (col. 3 lines 32-40).

Regarding to claim 18, Chakrabarti teaches the subject matter except for if two affiliated experts have edges to the same target, the edge having a lower edge score is discard an is not used to determine the target score (col. 5, lines 49-59).

However, Page teaches if two affiliated experts have edges to the same target, the edge having a lower edge score is discard an is not used to determine the target score (col. 5, lines 49-59).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combining the teaching of Page and Chakrabarti choosing the higher link and discard the lower one would allow the system to determine for the pages that are more important.

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] in view of Chakrabarti (US. Patent No. 4,418,433).

Regarding on claim 11, Chakrabarti teaches a hub page is a document having outlinks to pages containing information about the topic. However, Chakrabarti does not teach at least a predetermined number of outlinks to be an expert document if the document also point to at least the predetermined number of targets on distinct non-affiliated hosts. However, Setting condition such as threshold or predetermine is known in the art for Chakrabarti also teaches, "the preferred worker includes means for determining whether a gathering rate of relevant pages is below a "panic" threshold" (col. 3, lines 31-33). This teaches the claimed predetermined number of outlinks to be an expert document. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Chakrabarti (patent) into Chakrabarti because utilizing the predetermined as a setting condition for the number of outlinks would allow the software code to determine which of the pages in the web would satisfy the condition to be an expert page.

Regarding on claim 12, Chakarbarti teaches expert documents additionally must point to documents that share the same broad classification (page. 10, lines 20-33).

**Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail [baquoc.to@uspto.gov](mailto:baquoc.to@uspto.gov). The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached at (703) 305-4393.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

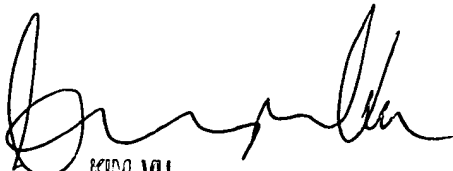
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The fax numbers for the organization where this application or proceeding is assigned are as follow:

- (703) 746-7238 [After Final Communication]
- (703) 746-7239 [Official Communication]
- (703) 746-7240 [Non-Official Communication]

Hand-delivered responses should be brought to:

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2121 Crystal Drive  
Arlington, VA 22202  
Fourth Floor (Receptionist).

  
KIM VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

Baoquoc N. To  
March 21, 2002